

Exponential Growth & Decay

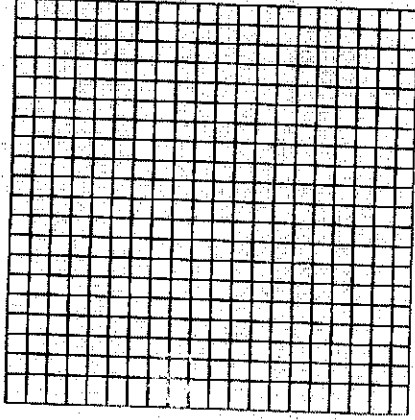
Name _____
Date _____ Per. _____

Growth

(m) Don't eat the M&M's yet.

1. Gather the data.
 - a. Start with 4 M&M's in the cup.
 - b. Shake the cup and pour the M&M's onto the paper towel. Count the number of M&M's that have the M showing. (Be careful with the yellow M&M's. It is hard to see the M.)
 - c. Add a new M&M for each one with an M showing. Record the total number of M&M's in the table below. (Trial #1 is the starting 4, continue with #2.)
 - d. Repeat Steps b & c, recording the new total each time, until there are 7 trials on the table.
2. Graph the data: Create a scatterplot of Trials (x) and Total Number (y)

Trial #	Number
1	4
2	
3	
4	
5	
6	
7	



3. Answer the following questions:

- a. Describe any patterns suggested by the scatter plot (what happens to x and y).
- b. Look at your data and scatter plot to complete the following statement:
Each time you pour the cup and add the new M&M's, the number of M&M's you have is about _____ of the number you had before.
- c. Use your graph to predict the number of M&M's on trial #9.
- d. Use your graph to predict the number of trials needed to have 300 M&M's.

Don't eat the M&M's yet.
Continue on the back of the worksheet.

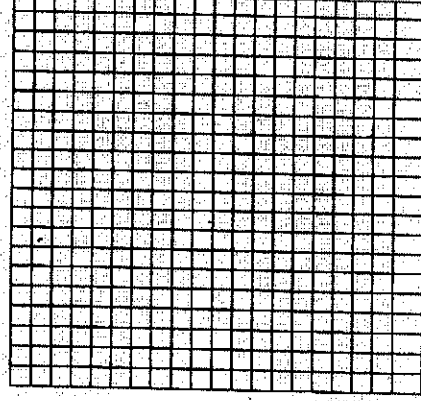
Growth & Decay Lab Decay

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Not yet.

5. Gather the data.
 - a. Start with a cupful of M&M's. Shake the cup and pour the M&M's onto the paper towel. Count the total number of M&M's and write that number on the table below, for Trial #1.
 - b. Remove all the M&M's that have the M showing. Record the number of M&M's remaining for Trial #2. Return the remaining M&M's to the cup. Shake the cup and pour the M&M's onto the paper towel.
 - c. Repeat Step b, until the table is filled in.
6. Graph the data: Create a scatterplot of Trials (x) and Number (y).

Trial #	Number
1	
2	
3	
4	
5	
6	
7	



... Answer the following questions:

- b. Describe any patterns suggested by the scatter plot (what happens to x and y).
- b. Look at your data and scatter plot to complete the following statement:
Each time you pour the cup and take out M&M's, the number of M&M's you have is about _____ of the number you had before.
- c. Use your graph to predict the number of M&M's on trial #8.
- d. Use your graph to predict the number of trials needed to run out of M&M's.



You can eat the M&M's now.

